

ICG witness Wood acknowledges that ISPs may use a variety of facilities to connect with the serving LECs switch, but denies that the choice of facilities or methods of connection has any impact on the usage sensitive costs which are the only relevant costs recoverable through reciprocal compensation. ICG claims that the characteristics of the particular facility used by a LEC to deliver traffic to its own customers is irrelevant to the rate for reciprocal compensation because the costs of these facilities are non-traffic sensitive, and are recoverable from end users. Moreover, regardless of what type of facilities are used to provide service for a specific type of customer, i.e., ISPs, when a CLEC uses a fully functional switch, it is purchasing the ability to service all line types. At the switch matrix level, which is the basis for costing out reciprocal compensation rate, a call path is assigned at the individual channel level, without reference to the type or capacity of the physical facility connecting the switch to the end user.

ICG's network is built upon an architecture that can generically be referred to as a SONET Ring architecture. These SONET rings are comprised of fiber optic facilities and multiplexing equipment that provides for aggregating, connecting and dispersing an individual customer's traffic to a larger SONET data stream. Witness Starkey testified that ICG employs a common network that is used to service its entire customer base. Both general business customers as well as data customers (primarily ISPs) use the same switches, fiber optic backbone and SONET rings for accessing the network, as well as for originating and terminating calls. Starkey testified that ICG employs fully functional Class 4/5 circuit-based switches (i.e., Lucent Technologies' 5ESS) that are shared by all of its local exchange customers. Focal denies that it uses the new technologies referenced by Pacific in terminating ISP traffic in California. Focal

states that it utilizes Nortel DMS-500 switches in California that provide all of same call origination functionalities offered by the ILECs.³⁵

ICG argues that because of the lumpiness inherent in switching investments and the fact that CLECs began to compete without an embedded customer base, any given CLEC may experience per-minute switching costs that are actually higher than those of the ILEC, including the cost of calls delivered to ISPs. ICG denies that any relevant cost differences exist between ILECs and CLECs that would justify paying an asymmetrical rate for reciprocal compensation.

(2) Discussion

It is an uncontested fact that CLECs networks tend to be configured differently from those of the ILECs in the manner described above. The relevant inquiry, however, is whether the CLECs' network differences cause significantly lower traffic-sensitive terminating switching and transport costs of the type that are recoverable through reciprocal compensation. We conclude that while the differences in network configurations between ILECs and CLECs may result in various differences in costs, those differences generally do not relate the traffic-sensitive terminating transport and switching costs that are the subject of reciprocal compensation. Rather, they relate to the non-traffic sensitive costs that are already recovered from end users.

³⁵ In its reply brief (pp. 9,10), Pacific requested to have admitted as a late-filed exhibit a press release posted on Focal's website purporting to show that Focal was replacing its DMS-500 switches with ICS2000 broadband switches at a lower cost. Focal filed an objection on October 6, 2000 on procedural and substantive grounds. We decline to admit the proffered document as a late-filed exhibit. Since the hearings have ended, Focal has had no opportunity to offer a witness to explain or refute Pacific's characterization of the exhibit. Late-filed admission of the document is denied.

Based on the testimony of witnesses noted above, we find that the CLECs generally use fully functional switches that offer both originating and terminating functions, and that are used to serve all of their customers, not just ISPs. ICG witness Starkey testified that ICG is a full service provider that uses a fully functional Class 4/5 circuit-based switches that are shared by all of its local exchange customers. (Rebuttal of Starkey; Exh. 2 at page 2.) Thus, whatever cost savings the CLECs may be able to achieve in successfully managing their switching resources, there is no basis to conclude that they fail to provide complete functionality on par with that offered by the ILECs.

Likewise, the question of whether the ILECs incur higher originating transport costs as a result of differences in network configuration is separate and distinct from the question of what are CLEC's termination costs. We have designated a later phase of the proceeding for consideration of issues relating to intercarrier compensation for transport charges incurred by originating carriers based upon differences between the rating and routing points of calls. We make no final determination in this decision concerning the level of transport costs that Pacific incurs in originating and delivering local traffic to CLECs points of interconnection or what forms of intercarrier compensation may be warranted for such originating costs. We do note, however, that Pacific's originating transport cost estimates assumed the point of interconnection was always located at or near the CLEC's switch so that Pacific would be responsible for providing interconnection trunks from its switch to the CLEC's switch. (Tr. At 1534; Hamilton.) On cross-examination by Pac-West, however, Pacific witness Hamilton testified that the length of interconnection trunks assumed by Pacific was based on a data base which erroneously measured the distance from the Pacific switch to the CLEC switch, rather than to the point of interconnection. (Tr. at 1593-94; Hamilton) Pac-West witness, Mills, however testified that numerous

points of interconnection in the Pacific/Pac-West interconnection agreement are not at the Pac-West switch. (Tr. At 1593-94; Mills)

In any event, Pacific's arguments concerning its costs of originating transport charges are not unique to ISP traffic, but apply equally to any and all calls transported to another carrier for termination. Every call that originates on Pacific's network that is handed off to another carrier for termination will necessarily require Pacific to transport the call to the relevant point of interconnection with the other carrier's network. In certain circumstances, Pacific may incur higher originating transport costs to hand off calls to another carrier rather than to terminate the call over its own system with no interoffice transport required and no intermediary switching operations. Yet, the distinction being drawn is not between termination of ISP traffic versus other local traffic. Rather, the distinction that Pacific draws is between the ILEC exclusively handling the origination and termination of any type of call versus a CLEC handling both the termination portion of any call. In other words, it is actually the introduction of a competitive element into the process that gives rise to Pacific's claim of higher transport costs. The question before us here, however, is not to second-guess the merits of competition, itself, not to probe how carriers choose to establish points of interconnection in a competitive setting. Instead, the focus of our inquiry here is on the functions and cost characteristics relating to the *terminating* end of ISP calls.

b) Longer Call Duration of ISP-Bound Traffic

(1) Parties' Positions

Pacific Witness Scholl conclude that "ISP-bound calls delivered to CLECs" are "typically much longer in duration" than a "traditional" voice call. They state that "ISP-bound traffic on Pacific's network during 1999 averaged 29 minutes in duration." By comparison, Pacific reports that the average

duration of a local voice call originated by flat-rate residential service in 1994 (prior to the growth of ISP traffic) was 3.78 minutes.³⁶

In 1994, Pacific reported average local usage per flat-rate residential line of 19 minutes per day. By comparison, America Online (AOL), a major ISP, reported 52 minutes of usage per day by its customers for Internet access. Pacific argues that these comparisons highlight the difference between ISP and other types of calls.

Verizon witness Beauvais testified that ISP-bound calls average between 20 to 30 minutes per call.³⁷ Some of the data supporting this duration were collected from trunks devoted solely to ISPs and thus, include no traffic delivered to local plain old telephone services (POTS) customers.³⁸ Other data come from a study that involved specifically identifying ISP telephone numbers and verifying the traffic as modem traffic by calling the identified numbers.³⁹ Similar studies performed by Pacific and Roseville Telephone Company (Roseville) show average call duration times for ISP-bound calls of 29 and 25 minutes per call.⁴⁰

Beauvais testified that there are a variety of other sources that reflect average holding times for ISP-bound traffic that are 30 minutes or

³⁶ Exh. 107-C (Pacific/Scholl) at 9-10.

³⁷ Exh. 78 (Verizon/Beauvais) at 12-13; Exh. 106 (Pacific/Scholl) 8-9; Tr. 1833:14-21 (Roseville/Gierczak).

³⁸ Exh. 78 (Verizon/Beauvais) at 12.

³⁹ *Id.* at 12 and Exh. 80.

⁴⁰ See, e.g., Exh. 106 (Pacific/Scholl) 8-9; Tr. 1833:14-21 (Roseville/Gierczak).

greater.⁴¹ An independent entity – Nielsen/NetRatings –calculated an average ISP-bound call duration of 30 minutes and 27 seconds.⁴² Traffic data that a CLEC provided to Verizon in Michigan – and that the relevant CLEC confirmed was purely ISP-bound traffic – displayed an average holding time of 42 minutes per call.⁴³

Various CLECs have argued longer hold times are not unique to ISP calls, in that particular local voice calls or types of call traffic – for example, traffic in households with adolescents who make long calls to their friends – potentially overlap with the hold times of ISP-bound calls.⁴⁴ The ILECs witnesses consistently use the term “voice calls” to describe calls that are not delivered to ISPs. The CLECs claim this is a false dichotomy. A significant volume of non-voice (data) calls exists that is unrelated to, and does not involve, ISPs, (i.e., some calls that are not voice calls are also not ISP-bound calls.) Conversely, not all calls to ISPs are data calls, some are voice calls. As a result, while it may be meaningful to refer to “voice” vs. “data” calls, it is not accurate or appropriate to place all calls to ISPs into either classification. Verizon responds, however, that the arbitrage opportunity presented to CLECs under the existing regulatory regime arises in part from the difference in the average duration of ISP-bound calls in the aggregate as compared to the average duration of voice calls. The longer average duration for ISP-bound calls reduces the per-minute cost of the “call set-up” i.e., the costs that occur on a per-call basis, but do not vary with the length of the call. Since

⁴¹ Exh. 78 (Verizon/Beauvais) at 10-13.

⁴² *Id.* at 12-13.

⁴³ *Id.* at 11.

⁴⁴ Exh. 61 (Focal/TerKeurst) at 23-24.

Verizon's reciprocal compensation rate does not separate out this fixed component. Verizon must pay CLECs for every additional minute even though there is no corresponding increase in per-minute costs. Because of the longer duration of ISP calls, Verizon claims that CLECs receive at least five times more for the call set up allowance than the fixed cost of performing the service would merit. Verizon understands that Pacific's default reciprocal compensation rates separate out the costs between a flat per-call set-up fee and a per-minute charge, and thus, apparently the overpayment due to call duration is an issue unique to Verizon.

The CLECs claim that Pacific and Verizon do not know the average duration of an ISP-bound call (whether delivered by a CLEC or Pacific). As described in response to ICG's Data request No. 18, Pacific has attempted to estimate the number and characteristics of calls to ISPs (delivered on its own network or by a CLEC). ICG argues that the process used has been thoroughly discredited in other states as being over-broad and inaccurate.

The CLECs note that Verizon's Beauvais cites to data that "is rather dated and is not California-specific,"⁴⁵ yet he concludes that the average holding time for voice calls is approximately 4.8 to 4.9 minutes in Illinois. He then compares this to data from a single CLEC in Michigan, and concludes that the average holding time for calls to ISPs is approximately 42 minutes, though "limited data" that Verizon has collected for California suggests an average duration for JSP calls of 20 to 30 minutes.

(2) Discussion

We find that the data studies presented by the ILECs concerning call duration estimates produce rather wide variations, and fail to

⁴⁵ Exh. 78 (Verizon/Beaurais) at 10.

provide any estimates that would be useful for quantifying a specific difference in the cost of an average ISP call versus all other local calls. We have already discussed various defects in the ILECs' studies of call duration previously in Section VI.B. While we acknowledge that the ILECs' call duration studies do not provide precise measures of ISP call duration in relation to that of all other local calls, we do find that on average, ISP call duration appears to measurably exceed the average duration for other local voice calls. Yet, by limiting the comparison only to voice calls, the ILECs fail to take into account the effects of other categories of non-ISP calls that also may have longer-than-average durations compared with voice calls. It would be arbitrary to single out ISP calls as having a longer duration without noting that various other categories of local calls also can have similarly long durations in comparison to all voice calls.

In any case to the extent that the per-minute duration of ISP calls exceeds that of voice calls, we find that the extra duration of ISP calls does not overcompensate CLECs, at least with respect to Pacific's payments. Pacific's reciprocal compensation payments incorporate its adopted TELRICs for switching which separate out a "per-call" charge that does not increase based on the duration of a call. Thus, CLECs only receive per-minute compensation for the TELRIC component that varies with minutes of use. Pacific witness Scholl acknowledged that once an ISP call is established, the unit cost per additional minute is typically going to be a constant amount. (Tr. 1074-1075). Therefore, any increase in reciprocal compensation revenues for longer duration calls would be offset by a corresponding increase in variable costs incurred by the CLEC for each additional minute.

In the case of Verizon, however, no fixed cost set up component is segregated out of its UNE rates. Therefore, we agree with Verizon that CLECs recover additional reciprocal compensation revenues related to

longer-than-average duration ISP calls that exceeds the additional costs incurred by the CLEC. We conclude, however, that the proper remedy to this disparity is not to eliminate reciprocal compensation, but rather to properly design Verizon's reciprocal compensation rates to separate out the non-variable UNE component, as already reflected in Pacific's rates. The OANAD proceeding is the proper forum to implement this rate realignment.

c) Higher Call Completion Ratio

(1) Parties' Positions

Pacific also identifies a higher call completion ratio for ISP as opposed to other calls. Pacific reports that normal voice calls are answered about 75% of the time whereas Internet calls are answered 95% of the time since they are answered by machines. Pacific claims the higher completion ratio reduced the TELRIC of the terminating switch set-up per completed call. Although TELRICs for terminating switching set-up costs are incurred on a per-attempt basis, they are billed only on completed calls. Thus, Pacific calculated a conversion factor to adjust its TELRIC based upon the higher call completion ratio for ISP calls. Using the Commission-adopted TELRIC for terminating switching set up of \$0.007 per call, Pacific calculated a 14% minimum rate reduction comparing local voice calls versus ISP-bound calls.

Focal's witness argues that high call completion rates are not necessarily limited to ISP calls, but would apply to any business where a prompt answer of the call is important. Focal argues that because ISP call completion rates are not unique in comparison to completion rates for various other service-oriented businesses, there is no basis to conclude that the ISP call termination costs are unique in this respect.

(2) Discussion

The relative rate of call completion for ISP calls only has meaning in comparison to other specified categories of calls. While the ILECs limit the comparison to residential voice calls only, there are various other categories of local calls besides residential voice calls where higher-than-average call completion ratios similar in nature to ISP calls exist. Businesses that are not service-oriented and residences on the other hand, could reasonably be expected to have lower call completion rates than for ISP calls. This dispute essentially gets back to the basic question of whether it is appropriate to single out ISP calls for separate cost measurement without doing the same for other types of non-residential local calls that may deviate from residential voice call characteristics. As we concluded above, it would produce arbitrary and discriminatory results to single out ISP calls for disaggregating measurement of call completion ratios while ignoring other calls with similar call completion characteristics. Thus, while Pacific's mathematical calculation appears correct indicating a 14% reduction in call set-up costs as a result of the difference in call completion ratios, we still find that this cost differential is not unique to ISP calls. It could apply to various other types of local calls with high call completion ratios.

d) Lower CLEC Switching Costs Due to Use of Trunk-to-Trunk Switching for ISP Calls

(1) Parties' Positions

CLECs typically use high volume Integrated Services Digital Network-Primary Rate Interface (ISDN-PRI) technology to deliver ISP traffic. ISDN-PRI is a digital technology that provides 24 channels of capacity to an end-user customer. An ISDN-PRI line is typically configured with 23 bearer channels that are used to transmit traffic, and one data channel that is used for signaling. The technology is designed to serve the needs of high-volume customers, such as ISPs.

Pacific claims that CLECs' use of these digital facilities to terminate ISP calls require trunk-to-trunk switching that is different from both a technical and routing perspective, and is less costly, than the trunk-to-line terminating end-office switching used for terminating normal local voice traffic. Equipment vendors have developed switches designed for this type of termination. Pacific claims these switches do not perform all the same functions as a traditional voice switch. Witnesses Hamilton (Exh. 123; pp. 7, 21-23), Scholl (Exh. 106; pp. 16, 19-22), and Harris (Exh. 146; pp. 23-24) on behalf of Pacific, and Jones on behalf of Verizon argue that CLEC's experience lower call termination costs as a direct result of the fact that CLECs are delivering a high volume of traffic to ISPs.

Pacific estimated a TELRIC-based CLEC trunk-to-trunk terminating switching set-up price for ISP-bound traffic by applying the ISP-bound traffic completion rate to the price for a tandem switching setup attempt. The tandem switching function is a trunk-to-trunk switching function that Pacific claims is a reasonable surrogate because it reflects a similar terminating function as that performed by CLECs for ISP-bound traffic.

Verizon claims that trunk-to-trunk switching involves the use of different hardware and software to complete the call, as compared with trunk-to-line switching. For example, a switch used to terminate a trunk-to-line call to a POTS ("plain old telephone service") customer has one line card for each POTS customer served. By contrast, Verizon claims a switch delivering a trunk-to-trunk call to an ISP would not use line cards at all, but would use trunk cards carrying much higher traffic volumes per card.

While Verizon recognizes that the line card/trunk card distinction does not directly affect traffic-sensitive costs, Verizon claims an indirect effect exists insofar as other equipment-based differences are triggered. Specifically, witness Jones testified that the number of switch modules varies

directly with the number of line cards or trunk cards, and that the switch modules have some usage-sensitive characteristics that impact reciprocal compensation costs.

The CLECs dispute the ILECs' claims concerning the lower costs of trunk-to-trunk switching. Pac-West argues that the claims of the lower cost of trunk-to-trunk switching are tenuous at best, and in any event, aren't relevant to reciprocal compensation since they are non-traffic sensitive. ICG claims the switching costs of call termination incurred by CLECs is not a function of the type of the customers served. ICG claims it incurs a cost of end office switching that does not vary depending on the identity of the called party whether an ISP or not. ICG disputes the ILECs' claims that trunk-to-trunk switching is less costly than trunk-to-line switching. ICG witness Starkey claims that: the ILECs' "trunk-to-trunk" switching arguments are fundamentally flawed because they depend on cost concepts that are not consistent with a proper TELRIC study. Starkey testified that: "[A]ttempting to derive disparate per-minute-of-use rates for different types of traffic originated by or delivered to a specific subset of customers has no causal validity."^{4c}

(2) Discussion

We find that the use of trunk-to-trunk switching is not uniquely linked to ISP-bound traffic, but may be used for other forms of local traffic as well. Therefore, any cost savings inferences that could be drawn about the use of trunk-to-trunk switching would not be unique to ISPs, but could also apply to other kinds of local traffic. Moreover, the ILECs failed to establish that the use of ISDN-PRI facilities necessarily entails trunk-to-trunk switching.

^{4c} Exh. 2, (Starkey for ICG) at 33..

Pacific witness Hamilton testified that it is impossible to determine whether a CLEC is performing trunk-to-trunk or trunk-to-line switching based merely on the fact that ISDN PRI facilities are used to connect an ISP or other customer to the central office.⁴⁷ Hamilton testified that trunk-to-line switching occurs “[w]hen the trunk needs to identify a particular line in order to activate the set of steps it needs to take to connect that path.”⁴⁸ In contrast, trunk-to-trunk switching occurs “[w]hen [the switch] can ignore the digits beyond the prefix . . . because it’s sending [traffic] out in bulk.”⁴⁹ Hamilton further acknowledges that an ISDN-PRI customer may choose to have a particular telephone number assigned to a particular PRI channel, in which case trunk-to-line switching would occur.⁵⁰ Alternatively, the customer may choose not to have a particular telephone number assigned to a particular PRI channel, in which case trunk-to-trunk switching would occur.⁵¹ Hamilton also concedes that the same switch could perform trunk-to-line as well as trunk-to-trunk switching.⁵² Consequently, it is impossible to determine whether a CLEC switch is performing trunk-to-line switching or trunk-to-trunk switching or both unless one has examined each particular switch and identified how ISDN-PRI facilities are configured.⁵³

⁴⁷ Tr. at 1543-44 (Pacific Witness Hamilton).

⁴⁸ *Id.* at 1544-45.

⁴⁹ *Id.* at 1545.

⁵⁰ *Id.* at 1548.

⁵¹ *Id.*

⁵² *Id.* at 1590.

⁵³ *Id.*

We also find the testimony of Pacific's witness Hamilton unpersuasive in claiming that CLECs incur lower traffic-sensitive switching costs as a result of trunk-to-trunk switching. On cross-examination, Hamilton admitted he did not know what a traffic-sensitive versus non-traffic sensitive cost is.⁵⁴ Pacific's counsel stipulated that Hamilton's testimony only addressed differences in network functions, but made no representation concerning traffic-sensitive versus non-traffic sensitive costs.⁵⁵ Yet, since only traffic-sensitive cost reductions are relevant to reciprocal compensation, we can draw no inferences from Hamilton's testimony concerning lower CLEC switching costs as they relate to reciprocal compensation.

As ICG witness Starkey testified, traffic-sensitive switch processor and switching fabric costs are incurred for inbound calls terminated to ISDN-PRI trunks. Whether traffic is provided over a trunk facility or a line facility, the job of the switch in terms of mapping calls to their predetermined destination points remains the same. While certain specific switch components may differ between trunk and line switching, the two primary traffic-sensitive cost drivers within a switch (i.e., capacity-switch fabric costs measured in time slot availability, and processing time, measured in milliseconds) remains the same.⁵⁶

Verizon witness conceded that the per-call set up cost for the PRI configuration used for ISP traffic is actually slightly higher because more processing time is required, but argues that the higher cost is outweighed by the longer holding times associated with ISP traffic.⁵⁷ Yet, as we have noted above, the

⁵⁴ Tr. at 1568-69 (Pacific/Hamilton).

⁵⁵ Tr. at 1582 (Pacific/Disher).

⁵⁶ Exh. 2 (ICB/Starkey) at 13.

⁵⁷ Exh. 154 (Verizon/Collins) at 8.

proper way to correct for the longer holding times is to disaggregate the reciprocal compensation rate to allow for separate fixed charges for set up costs. By making this correction in the rate, there would be no overstatement of costs due to long holding times. On this basis, Verizon's testimony supports a finding that traffic-sensitive set-up costs are actually higher for ISP traffic. In any event, the ISP call set-up charge is no less than for voice traffic.

We find the testimony of ICG witness Starkey to be persuasive that ICG purchases and deploys fully functional Lucent 5ESS switches that support multiple switching architectures including line-to-line, line-to-trunk, and trunk-to-trunk. Starkey's testimony is based on discussions with actual ICG switch engineering personnel.⁵⁸ We likewise have no basis to conclude that Pac-West's switches serving ISPs are limited only to trunk-to-trunk capabilities. Verizon witness Jones made no inquiries and did not know either the costs or configuration of Pac-West's facilities.⁵⁹

Witness Wood testified that, in any event, trunk-to-trunk switching costs are non-traffic sensitive and thus, are not part of the costs subject to reciprocal compensation recovery. Witness Starkey also claims the ILECs confuse traffic-sensitive with nontraffic-sensitive costs.

In conclusion, we find no basis to conclude that ISP traffic-sensitive termination costs are uniquely lower due to the use of trunk-to-trunk switching.

**e) Lack of Line Concentration using
ISDN-PRI**

⁵⁸ Exh. 2, (ICG/Starkey) at 13.

⁵⁹ Tr. 1609-12 (Verizon/Jones).

(1) Parties Positions

Verizon argues that CLECs' use of ISDN-PRI technology results in a difference in line concentration accommodated by the switch for ISP calls compared to voice-grade calls. For local traffic terminated to a customer over a standard voice-grade line port, there is typically a line concentration ratio of six to one. This means that the number of standard local POTS lines coming into the switch will be six times greater than the available number of paths through the switch for such traffic. Rather than having a dedicated amount of capacity through the switch, the lines share the switch path capacity at a ratio of six lines to one path.

This six-to-one line concentration configuration works well for standard POTS traffic because each POTS line is generally only used for short periods of time, and all lines are not typically in use at the same time. Because the volume of traffic over each POTS line is relatively low, the lines can efficiently share paths through the switch without substantial amounts of call blocking (a call is blocked when it does not make it through terminating switch because there is no available path). For calls to POTS customers, the switch module – a piece of peripheral equipment that is part of the switch – performs the line concentration function. This function allows the larger number of end-user lines to share the smaller number of paths through the switch. Because the paths through the switch are shared among multiple lines, the use of the switch during the peak hour imposes congestion costs on other line-concentrated users in the form of call blocking or rationing. Call blocking or rationing occurs as a result of the available path being in use. These congestion costs are the busy hour line costs, measured in centum call seconds (CCS).

As explained by Verizon witness Collins, the busy hour line CCS provides a measure of costs that are caused by the line concentration

accommodated in the switch. Because these busy hour line CCS congestion costs vary based on the volume of the traffic flowing through the available shared switch pathways at a given time, costing models treat these termination costs as traffic-sensitive.⁸⁰ Therefore, where reciprocal compensation applies, such costs are included in any reciprocal compensation charge that the originating carrier must pay to the terminating carrier on a per-minute or per-call basis.

For calls to ISPs over ISDN-PRI connections, Verizon argues however, the situation is very different. When ISP-bound traffic is carried over higher-volume ISDN-PRI trunks, the ratio of incoming to outgoing traffic through the switch is one-to-one. That is, each incoming line (or trunk in the case of traffic that has already gone through a separate originating switch) has dedicated capacity (i.e., a guaranteed path) through the switch. Unlike local POTS traffic, the incoming line does not share that capacity with other traffic. This arrangement is used for ISP-bound traffic because such traffic tends to be higher in volume.

Verizon argues that because the switch reserves dedicated capacity for the traffic that flows over that connection, there is no line concentration and no competition with other non-dedicated traffic for available pathways through the switch. Verizon claims because the ISP that is receiving the call over a PRI connection does not have to compete with other customers for switch capacity, the ISP imposes no congestion costs on the switch as a result of the amount of traffic that is carried to it over the connection.⁸¹ From the perspective of the terminating carrier, it does not matter how frequently the ISP is

⁸⁰ Exh. 154 (Verizon/Collins) at 4.

⁸¹ *Id.* at 5.

constantly using its dedicated capacity. In any case, the number of pathways through the switch available to other customers remains the same.

Verizon claims that this difference in the manner in which the switch paths are allocated reduces the traffic-sensitive costs incurred by the terminating carrier. That is because the level at which the ISP uses its dedicated capacity – i.e., the amount of traffic received by the ISP through the switch – does not affect the congestion in the switch. As a result, Verizon claims the CLEC does not incur traffic-sensitive busy hour line CCS costs when it terminates ISP-bound traffic.⁶² Since only traffic-sensitive termination costs are eligible for recovery by the terminating carrier, the line CCS costs that have been included in the reciprocal compensation rate for line-concentration, Verizon claims that standard voice traffic must be removed from the rate when ISP-bound traffic is at issue.⁶³

Verizon argues that the lack of line concentration performed by the switch on ISP-bound traffic delivered using ISDN-PRI technology results in significantly lower traffic-sensitive switching costs being incurred by the CLEC for termination of traffic.

The CLECs dispute Verizon's claims. Focal witness TerKeurst denies that the switching of a dial-up call onto an ISDN-PRI connection is any less expensive than switching a voice call onto a separate voice circuit. TerKeurst testified that many customers utilize ISDN connections for voice traffic without conversion to analog signals, so that this aspect of the switching process is not unique to ISP-bound traffic.⁶⁴

⁶² *Id.*; Exh. 138 (Verizon/Jones) at 15-16.

⁶³ Exh. 154 (Verizon/Collins) at 5.

⁶⁴ Exh. 61 (Focal/TerKeurst) at 40.

CISPA witness Montgomery testified that, if anything, the ISDN-PRI service used to terminate some ISP-bound traffic is actually more costly, when compared to the termination cost for analog traffic. Montgomery attributes this to two factors: (i) providing ISDN-PRI service requires that additional software be activated in the central switch processor; (ii) that the functionality of ISDN service is more taxing to the central switch processor.⁶⁵

As Focal witness Terkeurst similarly noted the fact that circuits are concentrated within a single ISDN-PRI loop does not reduce the switching requirements. ISDN-PRI connections and the ability to switch digital traffic onto such connections without conversion to analog are not unique to ISP-bound traffic, but are available to any business customer wishing to purchase them. In fact, a number of incumbent LEC business customers purchase such connections.⁶⁶

ICG witness Starkey similarly testified that Verizon's claims of lower cost due to line concentration differences were unfounded and reflected a misperception of the manner in which traffic-sensitive costs are incurred.

(2) Discussion

We find no basis to conclude that CLECs avoid traffic-sensitive switching costs merely because of "dedicated" capacity assigned to ISP incoming calls. While we recognize that ISP call termination may be provisioned over ISDN PRI circuits which utilize higher line concentration than voice traffic, we find that the use of such circuits is not unique to ISPs. Moreover, we find no basis to

⁶⁵ Exh. 109 (CISPA/Montgomery) at 36-38.

⁶⁶ Exh. 61 (Focal TerKeurst) at 14.

distinguish the use of switching resources used by ISDN circuits from other circuits.

ICG witness Starkey testified that even though ISDN circuits may be provisioned with 1:1 concentration ratios, they share the same finite switching resources (i.e., internal transport links, the switch fabric and the processor), as do other circuits. ISDN circuits are allocated switching resources as calls are made, regardless of the concentration ratio to which they've been engineered. The only difference between an ISDN circuit engineered with a 1:1 concentration ratio versus a more concentrated circuit is the level of priority in the process of allocating switching resources in "real-time." While this may impact which circuits experience "blocking" (i.e., no time slots available), these switched services still consume usage sensitive resources. Starkey's testimony indicated that the switch's processor actually requires more time to process a call delivered via ISDN compared with other types of more traditional traffic.⁶⁷ Based on this testimony, we thus conclude that ISDN-PRI services, regardless of concentration ratio, use traffic-sensitive switch resources (i.e., internal transport links, timeslot management resources and switch processing time), and incur related costs. Therefore, based on the testimony of ICG, Focal, and CISPA as noted above, we find insufficient basis to accept Verizon's claim that CLECs incur lower traffic-sensitive termination costs as a result of line concentration differences that apply only to ISP traffic.

⁶⁷ Exh. 2 (ICG/Starkey) at 27.

D. Does the Payment of ISP Reciprocal Compensation Result in Unrecoverable Losses to the ILECs?

1. Parties' Positions

Pacific claims that its current retail rate structure precludes recovery of ISP reciprocal compensation payments from its own end use customers at least for those that are billed a fixed monthly rate with unlimited local calling. Pacific argues that the vast majority of its customers calling the Internet have flat rate (1 FR) service, and do not generate any additional revenue to cover the per-minute of use charges paid by Pacific for ISP reciprocal compensation. Pacific claims the price for flat rate residential service does not cover the cost of the access line, much less the additional costs generated by usage-sensitive reciprocal compensation payments.

Witness Jacobsen testified that when the average Internet user uses a dial-up connection for an hour a day (just over the average usage reported by AOL), the LEC originating calls for that customer must pay about \$3.79 per month in reciprocal compensation payments.⁶⁸ However, Pacific argues, the Commission has set the price of flat-rate residential service below either the direct embedded cost or incremental cost of the line.⁶⁹ In fact, the Commission set the price of residential flat service (1FR) at only one half of the fully allocated cost less the End User Common Line ("EUCL") charge.⁷⁰ Thus, Pacific claims that its 1FR service is priced below its forward-looking costs, even without any usage.⁷¹

⁶⁸ Exh. 15 (Pacific/Jacobsen), pp. 12-13.

⁶⁹ D.94-09-065, *mimeo.*, pp. 44-46; see also Exh. 110 (CISPA/Montgomery), p. 10.

⁷⁰ Exh. 106 (Mr. Scholl for Pacific), p. 25.

⁷¹ D.94-09-065, *mimeo.*, pp. 44-46; see also Exh. 110 (CISPA/Montgomery), p. 10.

While most customers use residential flat-rate service for dial-up access to the Internet,⁷² Pacific claims it has receives no additional revenue from IFR service if that customer uses the service for Internet traffic. Pacific argues that an increase in basic service prices to cover reciprocal compensation payments would unfairly shift the burden of these payments to all customers, whether or not they access the Internet. Pacific claims a rate increase of \$0.60 per month would be required to fund ISP reciprocal compensation payments to CLECs in the year 2000, increasing to \$1.80 per month in the year 2002 based on its assumed growth rates.

Pacific's witness Jacobsen reports that Pacific paid \$173 million in ISP-related reciprocal compensation to CLECs during 1996 through 1999. In the year 2000, Jacobsen reports a drop in such payments to \$135 million. Yet, by the year 2002, Jacobsen projected a growth in payments to \$450 million, based on an assumed compounded growth rate of 5% per month.⁷³

Verizon likewise claims that it has been incurring massive net losses as a result of the Commission's reciprocal compensation rules. Based upon on billing records for the period of November 1, 1998 through May 24, 2000, CLECs have billed Verizon approximately \$32.4 million for reciprocal compensation while Verizon has billed the same CLECs only about \$0.4 million.⁷⁴ Based upon the average hold times for the traffic flowing in each direction, Verizon estimates that

⁷² Exh. 106 (Pacific/Scholl), p. 27. Focal notes that "[e]xcept for the smallest business customers, non-residential customers presumably do not use dial-up ISP access, but rather a higher capacity service such as T-1." Reply Comments of Focal Communications, p. 7, n.14.

⁷³ Exh. 15 (Pacific/Jacobsen) at 13-14.

⁷⁴ Exh. 78 (Verizon/Beauvais) at 29-30.

approximately \$27.1 million of the payments it made to CLECs were for ISP-bound traffic while less than \$200,000 of the payments CLECs made to Verizon were for ISP-bound traffic.⁷⁵ As a result Verizon claims a net loss over that time period of approximately \$27 million.⁷⁶

Verizon claims it cannot recover its reciprocal compensation costs attributable to ISP-bound traffic from the flat rate it charges to the typical residential end-user. Verizon is presently allowed to charge flat rate, one-party residential customers--the customers most likely to access the Internet--\$17.25 per month. Verizon claims the reciprocal compensation for ISP traffic can easily consume half of the total monthly revenue from the end user. After deducting the other costs that must be recovered from the end user revenues, Verizon argues that it cannot recover its payments for ISP reciprocal compensation.

Roseville also claims that it will suffer significant financial hardship from the payment of ISP-related reciprocal compensation. Roseville reports it has 5,400 trunks connected with CLECs of which 99% of the traffic is ISP bound. Roseville estimates that its reciprocal compensation payments to CLECs in 1999 would have been approximately \$1.2 million if it had to pay all CLECs with which it is interconnected based on the rate of \$.002 per minute. Roseville projects growth in this amount to \$2 million in 2000 and over \$2.6 million in 2001. For a company with 1999 intrastate revenues of only about \$94 million, Roseville argues that these amounts are significant. On the other hand, Roseville projects receipts of reciprocal compensation from CLECs of only \$11,000, \$19,000, and \$25,000 for 1999, 2000, and 2001, respectively. While Roseville's monthly service charge is

⁷⁵ Id.

⁷⁶ Id. at 30.

only \$18.90, Roseville argues that it would have to pay reciprocal compensation of \$21.60 for a customer that accessed the Internet for six hours per day. Roseville also reports it has spent \$6.2 million to upgrade its central offices to accommodate the volume of ISP traffic.

The CLECs, CISP, and TURN discount ILEC claims that they are losing money as a result of ISP reciprocal compensation payments. The CLECs claim that the ILECs derive substantial additional revenue from end user customers placing calls to ISPs through the offering of services such as Caller ID, Call Waiting, and Call Forwarding. ICG argues that Pacific's argument that it is losing money on residential customers is contradicted by its own behavior in providing customers a monetary incentive not to disconnect additional lines.

ICG also argues that the rate of growth in ISP terminated minutes will substantially abate due to (1) growth in DSL lines which are not subject to reciprocal compensation and which are most likely to be ordered by those customers with the heaviest Internet access. Likewise, ICG points to Pacific's and Verizon's aggressive deployment of other service alternatives to ISP dial-up access (such as dial-to-frame, virtual point of presence, and CyberPOP services) that will reduce the volume of dial-up ISP usage. Further, ICG notes that ILECs which own ISP affiliates have the capability to compete for increasingly larger shares of Internet business.

TURN likewise argues that far from being a financial drain to ILECs, the Internet provides enormous potential for the ILECs to tap vast new sources of revenue. Pacific, Verizon and Roseville, either directly or through their affiliates,

are all actively marketing Internet service to ISPs and to end user customers.⁷⁷

Pacific's affiliate, Pacific Bell Internet Service, purchases services from Pacific.

From 1996 through 1999, the yearly revenues of Pacific Bell Internet Service have grown almost ninefold and the number of subscribers has grown almost fivefold.⁷⁸

Pacific's parent SBC is engaged in a comprehensive refurbishment of its network to facilitate the provision of Internet and broadband services, and to achieve a substantial share of broadband market penetration.⁷⁹ In addition to pursuing significant broadband market share, SBC/Pacific has "conservatively targeted . . . annual savings of about 1.5 billion -- 850 million in cash operating expenses, and 600 million in capital expenditures by 2004" from its broadband initiative.⁸⁰

The CLECs also dispute the ILECs' cost shortfall claims by arguing that the ILECs would incur the costs of terminating the ISP calls themselves if CLECs did not terminate it. The CLECs argue that the payment of reciprocal compensation is equitable because the ILEC thereby avoids the cost of terminating ISP traffic. Since the TELRIC cost is the same whether the ILEC or the CLEC terminates the call, the CLECs claim the ILEC should be indifferent as to whether termination is done by a CLEC or an ILEC.

The ILECs respond by arguing that they incur additional transport expense when delivering traffic to CLECs, as compared to keeping all traffic on

⁷⁷ (Tr. 93, l. 6-14, Tr. 140, l. 5-15, Roseville/Gierczak; Tr. 715, l. 1 - 8, Tr. 716, l. 16-19, Verizon/Beauvais) (Tr. 93, l. 6-14, Tr. 140, l. 5-15, Roseville/Gierczak; Tr. 715, l. 1 - 8, Tr. 716, l. 16-19, Verizon/Beauvais).

⁷⁸ (Exh. 46, Tr. 412, l. 12- 22, Pacific/Jacobsen).

⁷⁹ (Exh. 50, PBRC 04828; Tr. 442, l. 9-24, Pacific/Jacobsen).

⁸⁰ (Exh. 50, PBRC 04827; Tr. 439, l. 6-22, Pacific/Jacobsen).

their own network. Specifically, Pacific witness Hamilton asserts that Pacific Bell bears the vast majority of the network burden to support ISP-bound calls, since competitive LECs may have only one or two points of interconnection in a LATA and Pacific must transport a call a significant distance before handing it off to the competitive LEC. Pacific witness Scholl testified similarly and contends, as a result, that ISP-bound calls delivered to competitive LECs cost Pacific more, not less, to deliver than it would cost Pacific to deliver ISP-bound local traffic to ISPs on its own network.⁵¹

Focal argues that this argument does not apply to its own network. For example, as indicated by Focal witness Tatak, Focal has at least 45 physical points of interconnection with Pacific in the two LATAs in California where it operates.⁵² However, even in the case of a CLEC which has fewer points of interconnection, the ILECs offer no evidence that there is something peculiar to ISP traffic that causes a disproportionate burden on the ILECs' transport burden.

Focal further argues that the average per minute rate paid out by ILECs has been decreasing since 1996, and will continue to decrease due to the re-negotiation of interconnection agreements. Focal claims Pacific's two-part compensation rate ensures that the originating carrier only pays for service they are receiving from the terminating carrier, with no over-recovery. Pacific responds that the growth of the Internet market has created a growing burden of payments that is unsustainable at any compensation rate.

⁵¹ E.g., Reply Testimony of Pacific witness Scholl (Exh. 108) at p. 26.

⁵² Rebuttal Testimony of Focal witness Tatak (Exh. 84) at p. 4.

2. Discussion

We recognize that the ILECs incur significant costs to make reciprocal compensation payments to CLECs. Yet, even to the extent that some losses arguably might accrue to an ILEC as a result of paying reciprocal compensation for ISP traffic, that fact would not, in itself, justify the ILEC withholding reciprocal compensation payments otherwise due for services performed. Financial loss is not a valid basis for any carrier to justify withholding payment for any services performed for its benefit by a third party. Moreover, a fundamental principle underlying the New Regulatory Framework (NRF) established by this Commission was that ILECs were to bear financial responsibility for the business risks that future events would not turn out exactly as expected or as wished. In return, the ILECs gained new opportunities to enhance investor earnings by pursuing new business ventures with profit potential. Pacific's Project Pronto is but one example of such a potential opportunity.

Project Pronto (as described in Exhibit 50, SBC's Investor Briefing) is a \$6 billion "Sweeping Broadband Initiative" investment program.⁸³ Project Pronto promises, for SBC as a whole, "annual savings of \$1.5 billion by 2004," "capital and expense savings [that] pay for [the] initiative on [a net present value ("NPV")] basis, "\$3.5 billion in new revenue by 2004," a "100 basis-point improvement in annual revenue growth," and "significant value creation, well in excess of \$10 billion NPV."⁸⁴ The Investor Briefing states, "SBC's new network investments will have a profound impact on its cost structure; in fact, the efficiencies SBC expects

⁸³ The expectations for Project Pronto are backed by extensive research and analysis, as can be seen in such documents as Exhibits 51-C, 52-C and 53-C. These documents explain the basis on which SBC elected to go forward with Project Pronto.

⁸⁴ Exh. 50, p. PBRC 04822.

to gain will pay for the cost of the deployment on a NPV basis. These efficiencies are conservatively targeted to yield annual savings of about \$1.5 billion by 2004 (\$850 million in cash operating expense and \$600 million in capital expenditures).⁸⁵ Pacific's witness Mr. Jacobsen stated that he saw "Project Pronto as an attempt to live out th[e] new [NRF] framework."⁸⁶

Pacific argues that Project Pronto is not relevant in determining whether Pacific has sufficient revenues to fund ISP-related reciprocal compensation. Witness Jacobsen testified that, "It would be inappropriate [for Pacific] to make decisions now based on cost savings that we're going to hopefully reap in the future. . . . It would be very premature for the Commission to say, Gee, if these materialize, you might be in a position to fund a windfall to your competitors."⁸⁷ Jacobsen also testified that the statements in the Investor Briefing "are projections based upon a lot of assumptions and a lot of hopes. I don't think you can say for sure that these are going to come to pass."⁸⁸ Pacific witness Hamilton clarified that the voice over ATM (VoATM), also known as "voice trunking over ATM" ("VTOA") portion of Project Pronto was currently on hold for several reasons.⁸⁹

We recognize there are business uncertainties associated with Project Pronto as testified to by witness Jacobsen. Yet, irrespective of any specific benefits

⁸⁵ Id. at p. PBRC 04827.

⁸⁶ Tr. at 440/13-14.

⁸⁷ Tr. at 441/15-17, 24-26.

⁸⁸ Tr. at 439/26-28.

⁸⁹ Tr. at 1535/19-28.

that may ultimately be realized from Project Pronto, the relevant issue is that Project Pronto represents an example of the structure of risk and reward incentives under NRF. The presence of reciprocal compensation gives Pacific and SBC an incentive to achieve as many cost savings and efficiencies as possible through ventures such as Project Pronto.

Moreover, Exhibit 164 indicates, in Verizon's response to ICG's Data Request No. 13, that GTEC is currently generating \$55.5 million from advanced technology products and services that GTEC has developed or deployed to serve ISPs. See also, Exhibit 167 (showing Verizon's 1999 revenues of \$16.8 million from local exchange dial tone access line services (\$35.39/line) sold to ISPs). None of this revenue, of course, existed at the time of the IRD decision in 1994, and none of the incremental profits associated with the sale of these Category II services will cause any adjustment of the rates that GTEC charges for its other services. In claiming that they have no sources of revenue to offset reciprocal compensation payments to CLECs (*see, e.g.*, Exh. 15, p. 24, ll. 7-9 (Mr. Jacobsen for Pacific)), the ILECs fail to recognize the potential for such new revenue sources.

The reciprocal compensation obligation thus provides incentives for the ILECs to seek to win over ISP customers and aggressively market alternatives to dial-up access to ISPs. By doing so, the ILECs can minimize their reciprocal obligation burden by migrating customers off dial-up access.

The fact that CLECs have been more aggressive in marketing their services to ISPs and have achieved a much greater than anticipated share of the ISP market does not justify insulating the ILECs against the risk resulting from such an unexpected outcome. Notwithstanding our misgivings with the underlying premise of this particular line of argument, we find no substantive basis in the ILEC's claims of significant financial loss due to payment of reciprocal compensation to CLECs.

The beginning point for Pacific's argument is that 1FR revenues already fail to recover costs even before consideration of reciprocal compensation revenue. We find that Pacific's narrow focus only on 1FR revenues to the exclusion of other revenue sources runs contrary to the stated intent of the Implementation Rate Design (IRD) proceeding which took into account that various revenue sources would provide differing levels of profit contribution. Pacific witness Scholl conceded that IRD intended that toll services priced above cost were to be recognized as an offsetting contribution to cover any shortfalls in 1FR cost recovery.⁹⁰

Moreover, we find no basis to conclude that an incremental call duration of ISP calls results in a significant financial harm to Pacific. Dr. Selwyn testified that the "ILECs' existing retail local exchange tariffs are generally set at sufficiently high levels to compensate for most, if indeed not all, of the ILEC's usage costs associated with local dial-up calls to ISPs."⁹¹ Dr. Selwyn provided an example of a California subscriber to America On-Line's ("AOL") Internet service who connects to AOL through a second residential exchange line obtained from Pacific. Assuming the subscriber's AOL usage is 64 minutes a day (i.e., 32 hours per month) and average per-call duration is 30 minutes, Selwyn calculated the total incremental costs of the associated local telephone usage. Selwyn used Pacific's most recently approved TSLRICs for local usage. Selwyn further compared such costs to the total local usage component implicit in Pacific's residential flat-rate charge and concluded that Pacific's local usage rate component

⁹⁰ See Tr. at 372-73 (Pacific/Scholl)

⁹¹ See Exh. 127 at 14 (Pac-West Witness Selwyn Direct Testimony).

“more than compensates Pacific for the incremental costs of that customer’s dial-up ISP calls.”⁹²

When the Commission last conducted its comprehensive review of Pacific’s local residential rates in its 1994 IRD proceeding, it purposely set such rates at one-half of Pacific’s reported *fully allocated* costs. Such rates, however, consisting of direct embedded, or historical, costs plus an allocation of common overhead costs⁹³ are unlikely to be below Pacific’s long-run incremental costs of carrying local traffic based on forward-looking technologies. Thus, Pacific’s arguments fail to provide a cost basis against which to evaluate whether current revenues recover its forward looking costs of providing IFR service today.

None of the ILECs’ data showing growth in Internet usage prove that such usage has significantly affected their cost assumptions made when they established their residential rates. As Dr. Selwyn testified, available FCC data “demonstrate[s] that the Internet has had a significant impact upon the demand for additional residential access lines, but has had little impact upon the *average volume of local traffic* carried over each line.”⁹⁴ Beginning in 1990, “the demand for additional residential access lines began to mushroom, and by the end of 1998 . . . over one-fifth of all U.S. households had an additional residence line, representing some 20.4-million such lines nationwide.”⁹⁵ “During that same period, the per-line volume of local calling increased by only 19 percent.”⁹⁶

⁹² *Id.*

⁹³ See D.94-09-065, mimeo at 5, 32-33, 45-46 (Sept. 15, 1994).

⁹⁴ See Exh. 127 (Pac-West/Selwyn) at 15.

⁹⁵ *Id.*

⁹⁶ *Id.*

Pacific's own data, shows that Internet usage has only resulted in an average duration increase for all of its local traffic from 2.25 minutes to 2.47 minutes in 1999, an increase of only 0.22 minute. The average overall duration of 2.47 minutes for local calls, including ISP calls, is still less than the 3 minutes which Pacific acknowledges is the average local call duration assumption underlying Pacific's local service rates set in the 1994 IRD proceeding.⁹⁷ We also find no basis to support Pacific's estimates of growth in the rate of its payments for ISP-related reciprocal compensation through the year 2002. In fact, through its own marketing efforts to promote alternative Internet access services such as Digital Subscriber Line (DSL), Pacific has the potential to actually reduce the magnitude of such reciprocal compensation payments to CLECs going forward.

Roseville raises the additional issue of its financial burden for new plant upgrades to accommodate interconnection with CLECs. While the \$6.2 million investment reported by Roseville may be significant in magnitude, such costs are byproduct of CLEC interconnection generally, and are not uniquely limited only to ISP-bound traffic. Thus, the fact that Roseville may incur network upgrades as part of its general obligation to facilitate competition in its service territory is not a reason to withhold reciprocal compensation payments for the termination of traffic by CLECs, including that of ISPs. Whatever means may be appropriate for Roseville to recover its plant upgrade costs, the elimination of its reciprocal compensation obligations is not the proper remedy.

In any event, any claims of ILECs regarding the need to raise end user retail rates to fund reciprocal compensation payments are beyond the scope of this phase of the proceeding. Thus, the record provides no basis to conclude that

⁹⁷ See Tr. At 348-49 (Pacific Witness Jacobsen).

the impacts of Internet usage has adversely affected the ILECs' overall financial health.

VII. Is Bill-And-Keep a Reasonable Alternative for Reciprocal Compensation?

A. Parties' Positions

The ILECs propose that reciprocal compensation be eliminated for ISP traffic and replaced with a "bill-and-keep" approach to compensation. Under bill-and-keep, the ILEC would continue to absorb costs to originate and transport ISP-bound traffic to CLECs, and would receive no compensation from CLECs or its customers for such origination, transport, and switching costs. CLECs would continue to bill ISPs, and CLECs would retain all of these revenues. CLECs would not pay Pacific for the additional switching and transport costs of ISP-bound calls.

The ILECs claim that bill-and-keep provides for an equitable sharing of the burden of the FCC's exemption of ISPs from paying access charges. As a result of this exemption, neither originating nor terminating carriers can levy access charges on ISPs. Pacific argues that if the ISP exemption were not in place, carriers would be compensated by a meet-point-billing arrangement with access charges applying on both the originating and terminating side of the call. Pacific characterizes its proposal as a continuation of the meet-point-billing requirements, but with the exemption of the ISP from access charges, resulting in a "bill-and-keep" arrangement whereby the originating and terminating carrier each shoulders the burden for the portion of the call they carry.⁹⁵

Pacific points to various purported advantages to end users of bill-and-keep. End-user customers would not have to pay toll charges to access the

⁹⁵ Exh. 15 (Pacific/Jacobsen) at 25-26.

Internet. CLECs would continue to have calls rated as local and at the same time have the calls routed to distant points of interconnection without paying Pacific for transport and tandem switching.

End-user customers would not have to provide additional funding to Pacific, or any other originating carrier, to finance reciprocal compensation payments CLECs.

Pacific also claims a level playing field would be created in the market place for ISP business. All LECs serving ISPs would use ISP revenues to cover their costs. Consistent with the FCC's ESP exemption, LEC costs that are not covered by charges to ISPs would be absorbed. LECs would not view residential customers as potential liabilities.

Pacific's witness, Dr. Harris, characterized bill-and-keep as "a reasonable compromise halfway between the long distance access charge scheme which would flow revenue back to PacBell, the originating carrier, and the current reciprocal compensation scheme which flows charges from PacBell to the CLEC serving an ISP." Dr. Harris testified that bill and keep would reduce the distortion that favors old-fashioned dial-up modems over advanced access technologies. Pacific still believes the adoption of bill and keep for ISP-routed traffic represents a subsidy from Pacific to the ISP because there is no intercarrier compensation, rather than having the ISP compensate the ISP's LEC/CLEC and Pacific Bell. Pacific claims that CLECs can cover (or already are covering) their switching costs by charges already levied on ISPs without reciprocal compensation payments from Pacific.

Pacific believes that under the Act, bill-and-keep arrangements are acceptable outcomes. Pacific argues that because Sections 251 and 252 do not mandate that reciprocal compensation be paid on ISP-bound calls; the Commission has the latitude to adopt a preferred outcome excluding ISP-bound calls from reciprocal compensation requirements. Since the FCC has exempted

ISPs from paying carrier access charges, Pacific argues that costs need to be recovered from the users of the respective carrier services - ILECs from their end users and CLECs from their end users, including ISPs. Pacific claims that nothing in the law prohibits CLECs from recovering costs from ISPs through fees other than access charges.

The ILECs argue that the elimination of reciprocal compensation payments will merely eliminate certain CLECs' windfall profits, but deny that there is any evidence that the CLECs' financial viability would be threatened. Pacific points to statements made by ICG and Focal to investors and the financial community to the effect that they will be viable even without the reciprocal compensation they currently receive.

CLECs oppose the bill and keep alternative, arguing that it would prevent recovery of terminating costs from the originating caller that causes the costs to be incurred. CLECs argue that because the originating caller initiates the call to the ISP, the carrier of the originating caller should compensate for the cost of terminating the call to the ISP as a matter of economic fairness. Witness Selwyn argues that all local calls are undertaken on a "sent-paid" basis whereby the originating subscriber has paid to have the call delivered on an end-to-end basis.

The CLECs argue that bill and keep is particularly inappropriate due to the traffic imbalance in ISP-bound calls exchanged between competitive LECs and incumbent LECs. Focal argues that the traffic imbalance is precisely the reason why reciprocal compensation is needed. Adoption of bill-and-keep (the default arrangement if reciprocal compensation payments are eliminated) when traffic is not roughly balanced would preclude the LEC with the greatest volume of terminating traffic from recovering its transport and termination costs. Imposition of a bill-and-keep mechanism when traffic is imbalanced would be inconsistent with the FCC's rules on the matter. Specifically, the FCC concluded that bill-and-

keep may only be imposed by state commissions where the traffic terminated on interconnecting LECs' networks is roughly equal and is expected to remain so.

B. Discussion

We do not find the bill-and-keep proposal to provide an equitable alternative to reciprocal compensation. The ILECs propose the bill-and-keep mechanism as a remedy for the perceived imbalance in the flow of services and revenues that they claim currently exists. The bill-and-keep mechanism would relieve the ILECs from paying any reciprocal compensation for any calls their customers make to ISPs that are terminated by CLECs. Yet, the bill-and-keep alternative does nothing to move toward a more balanced flow of services and revenues related to ISP call termination. If anything, the bill-and-keep alternative would result in an equal if not greater asymmetry than that presently alleged by the ILECs. Under present policies, there is a matching of reciprocal compensation revenues with minutes of traffic terminated to ISPs, whether by an ILEC or a CLEC. The bill-and-keep proposal would eliminate this matching.

Verizon argues that bill-and-keep is a competitively fair outcome because it treats both ILECs and CLECs equally by exempting them all LECs from paying any compensation to any other LEC. Verizon's argument is one-sided, however, by failing to consider the imbalance in terms of services rendered. The proposal would not treat ILECs and CLECs equally in relation to the volume of ISP traffic they are required to terminate. To the extent that CLECs terminate disproportionately much greater ISP traffic volumes than do ILECs, the adoption of bill and keep would disproportionately penalize the CLECs. The bill and keep alternative would create a significant asymmetrical distortion between (1) the service rendered in terminating ISP calls, and (2) the payment made for that service.

ILECs argue that the prohibition on using bill and keep when traffic flows are out of balance only applies for "local" traffic. Assuming the Commission chooses to classify ISP traffic as non-local, the ILECs argue, there is no prohibition on applying the bill-and-keep approach. Even assuming the FCC technical prohibition did not apply, the ILECs still fail to justify why the underlying rationale for requiring a rough balance of traffic flows would not apply to ISP traffic to justify bill-and-keep even if the traffic is technically deemed non-local.

Pacific also seeks to justify its proposal on the basis that the ISP and its subscriber are the primary cost causer whenever a customer of the ISP originates a call over an ILEC local phone line to reach the ISP. Pacific witness Harris first argues that from a cost-causation perspective, it is the responsibility of the ISP and its subscriber to ensure that all of the suppliers are paid for in their roles in providing the ISP's service. The subscriber contracts with an ISP that, in supplying that service, uses the PSTN. The fact that the ISP subscriber also is the subscriber to local exchange service from the ILEC is not relevant under Harris' theory. Harris claims that because the ISP is acting on behalf of the subscriber to route the subscriber's traffic to the Internet, the situation is very different from others involving what he calls "true" local end-users.

We find Harris' attempt to define the ISP as the cost causer to be inconsistent with the principles linking payment obligation with cost causation for other types of calls. Harris seeks to justify the inconsistency by claiming a unique relationship exists between the ISP and its subscriber in comparison to other types of "true" local end users. We find that no essential difference between the ISP and its subscriber that justifies an inconsistent application of cost-causation principles compared with other types of calls. As noted by witness Selwyn in rebuttal testimony, there are any number of non-ISP businesses and service providers for which the telephone call placed by the end user is an indispensable aspect of the

transaction with the end user. For example, a similar relationship between calling party and service provider can be said to exist in the case of a call answering bureau, a customer service center, or a travel reservation bureau where the ultimate goal is not to speak to the called party as end in itself, but rather to obtain information.

Yet, while the essence of the relationship between the business and its subscriber is similar in such cases, Harris is not proposing to reverse the traditional "sent-paid" linkage of originating caller with cost responsibility for terminating charges. The fact that a customer chooses to be a subscriber to an ISP does not prevent the customer from simultaneously subscribing to the ILEC for local telephone service. Whether the telephone customer is calling a friend, a reservation bureau, or an ISP, the telephone customer is choosing to originate the call. The fact that the called party (whether ISP, reservation bureau, or personal friend) may have actively solicited the calling to make the call doesn't change the underlying relationship between the telephone subscriber and the ILEC providing the service. Thus, where the ILEC originates a call on behalf of its subscriber, whether the purpose of the call is to reach an ISP, a travel reservation bureau, or a personal friend, the cost causation principles should be applied consistently. Therefore, it remains the responsibility of the originating ILEC to pay for the costs of terminating the call, on behalf of the call originator who causes the costs to be incurred. The adoption of bill-and-keep would be inconsistent with this cost-causation principle since it would treat the called party (i.e., the ISP) as the cost causer, rather than the ISP subscriber (i.e., the calling party). We likewise find that the bill and keep option is not justified in order to compensate the ILEC for any claimed "subsidy" to ISPs due to their exemption for federal access charge. Forcing CLECs to recover termination charges from ISPs through end user rates rather than through reciprocal compensation would run counter to the stated intent of

the FCC in applying the access charge exemption on ISPs. As the FCC has stated:

"Maintaining the existing pricing structure for these services avoids disrupting the still-evolving information services industry and advances the goals of the 1996 Act to 'preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation.'" ⁹⁹

For these reasons, we find the bill-and-keep approach to be unacceptable as a compensation alternative for ISP calls.

VIII. Comments on Proposed Decision

The proposed decision of ALJ Thomas R. Pulsifer in this matter was mailed to the parties in accordance with Pub. Util. Code Section 311(d) and Rule 77.1 of the Rules and Practice and Procedure. Comments were filed on _____, and reply comments were filed on _____.

Findings of Fact

1. Under Section 251(b)(5) of the Telecommunications Act of 1996 (Act), each carrier has the duty to establish reciprocal compensation arrangements for the transport and termination of local telecommunications traffic.

2. The question of whether termination of ISP traffic requires the payment of reciprocal compensation charges depends, in part, on whether such traffic is defined as local or interstate in accordance with the Act.

⁹⁹ In the Matter of Access Charge Reform (1997) 12 FCC Rcd 15982, 16133 (§ 344(1997))

3. The services provided by an ISP may involve the transmission of information over the Internet beyond the local calling area in which the ISP modem is located, and may, in fact, span the globe.

4. The movement of data over the Internet is separate and distinct from the transmission of telecommunications over the public switched telephone network with respect to the structure of the network, the mode of transmission, the nature of the service provider, and the nature of the service rendered, and the costs of rendering the service.

5. The requirement for reciprocal compensation for call termination in interconnection agreements under the provisions of the Act only applies to local telephone traffic originating and terminating within the same local calling area.

6. Under the 1996 Act, state regulatory commissions have the responsibility to determine which calls will be defined as or treated as "local" calls for purposes of making reciprocal compensation applicable to such calls when handled by more than one carrier within parameters established by the FCC.

7. The determination of whether a call is local is predicated upon identifying the point at which the call is "terminated" as defined by the Act.

8. Under the Act, "termination" is defined as "the switching of traffic that is subject to Section 251(b)(5) at the terminating carrier's end office switch (or equivalent facility) and delivery of that traffic from that switch to the called party's premises."

9. The function of end office switching is only performed by a telecommunications carrier over the public switched telephone network, and no such switching is performed by an ISP after the call is delivered to the ISP modem.

10. To the extent an ISP requires telecommunications services for transport of its information service, the ISP does not provide such service, but separately obtains such service from an underlying interexchange carrier.

11. There are no end offices located at or connected to any Internet web sites that are switched or otherwise manipulated by the ISP in the processing of information service functions.

12. Unlike a calling party using the services of an interexchange telecommunications carrier, a calling party connecting to an ISP modem does not do so for the purpose of originating or terminating telephone toll service, and incurs no separate charge for toll service by calling the ISP.

13. In a Declaratory Ruling released February 26, 1999, the FCC used an "end-to-end" analysis to conclude that calls placed to ISPs are interstate, and thus that reciprocal compensation is not required under the Act for such calls.

14. The end-to-end analysis underlying the FCC Declaratory Ruling presumed that the termination point of an ISP call is the location of the web site(s) ultimately accessed by the originating caller, rather than the end office switch serving the modem connection by which the call is delivered to the ISP.

15. Because a call to an ISP may frequently involve accessing multiple web sites or Internet destinations, the single end-to-end analogy derived from descriptions of long distance toll calls is not schematically accurate in the context of ISP-bound calls.

16. On March 24, 2000, the D.C. Circuit Court vacated and remanded the Declaratory Ruling on the grounds that the FCC failed to explain why its end-to-end analysis was applicable to determining whether reciprocal compensation was owed for a carrier's termination of a call to an ISP.

17. Since the FCC has to date failed to provide an explanatory rationale in response to the D.C. Circuit directive to justify its end-to-end analysis in the context of reciprocal compensation, those FCC findings have no binding authority with respect to this decision.

18. Internet communications utilizing dial-up telephone connections is composed of two discrete functions: (1) a telecommunications service provisioned by a local exchange carrier by which the end user connects to the ISP modem through a local call, and (2) an information service which is provisioned by the ISP either through its own web site or over the Internet.

19. Under the Act, "telecommunications" is defined as the "transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received." (47 USC 153(43).)

20. The Act defines "information services" as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control or operation of a telecommunications system or the management of a telecommunications service." (47 USC 153(20).)

21. As part of the information service provided by the ISP, the ISP converts the customer's analog messages into data packets which are individually routed through its modem to host computer networks located throughout the world.

22. The relevant determinant of whether ISP traffic is local is whether the rate centers associated with the telephone number of an originating caller and the telephone number dialed to connect to the ISP modem are both located in the same local exchange.

23. If the rate centers associated with the telephone number of the end user originating the call and the telephone number used to access the ISP modem lies within a single local calling area, then such call is a local call.

24. The traffic-sensitive telecommunications network functions that are required for a typical CLEC to terminate ISP traffic are no different from the

traffic-sensitive functions required to terminate local calls of any other end user of the CLEC.

25. The fact that ISP traffic flows predominantly in one direction does not reduce or eliminate the costs involved in terminating such traffic, nor justify the denial of reciprocal compensation to any carrier (either ILEC or CLEC) terminating such traffic.

26. Reciprocal compensation treats carriers fairly since each carrier only pays (and is compensated for) the actual traffic flows that a carrier terminates on behalf of a separate originating carrier.

27. Although no party provided precise measures of the volume of ISP traffic terminated by particular carriers, it is generally true that CLECs, as a group, terminate much greater volumes of ISP-bound traffic than do the ILECs.

28. Among the CLECs that actively participated in this proceeding, there is a greater market concentration in serving business customers, with particular focus on ISPs, as opposed to serving residential customers.

29. The fact that specialized market niches may develop, such as service to ISPs, is not necessarily anticompetitive, but merely reflects the workings of a competitive market.

30. The payment of reciprocal compensation for the termination of ISP traffic in accordance with the provisions of the Act does not result in incentives to impair competition, to avoid implementing new technologies to serve customers seeking Internet access, or otherwise impair the technological development of the competitive infrastructure in California.

31. The elimination of reciprocal compensation for ISP traffic would deny CLECs their present source of funding for terminating ISP calls, thereby impairing CLECs' competitive incentive to serve ISPs, or else, could result in higher charges to ISPs for phone service which might be passed on to end users.

32. With less competitive options for obtaining local exchange service, ISPs could become more dependent on ILECs for their service, thereby reducing competition and potentially impairing ISP service options or increasing ISP charges passed through to its end use subscribers.

33. The payment of reciprocal compensation to CLECs for the termination of ISP traffic in accordance with the provisions of the Act does not result in "windfall" profits.

34. The only relevant costs for purposes of evaluating whether reciprocal compensation rates are excessive are traffic-sensitive costs incurred in the transport and switching of terminating traffic.

35. In accordance with the Act, the termination costs of the ILEC are used as a proxy of CLEC termination costs for purposes of reciprocal compensation.

36. In accordance with the Act, the proper cost standard for reciprocal compensation is TELRIC which is not disaggregated by class of customer, but rather uniformly applies to all customers served over the same facilities.

37. CLECs do not serve ISPs using different terminating facilities than they use for terminating local traffic of other customers.

38. While CLECs' network facilities may be configured differently from those typically used by the ILECs, those facilities are used to serve customers connecting to the CLEC system. Since any cost differences relating to those facilities are attributable to originating traffic, not terminating traffic, those differences do not impact reciprocal compensation.

39. While the ILECs failed to quantify a reasonably precise measure of the average duration of ISP-bound calls in comparison to voice-related calls, they generally established that ISP-bound calls tend to have a longer duration than voice calls.

40. Even to the extent ISP-bound calls have a longer duration than the average of all local calls, reciprocal compensation rates do not overcompensate for such longer duration as long as the fixed cost of call set up is separately charged on a per-call basis rather than a per-minute basis.

41. Pacific's reciprocal compensation rate separately applies the fixed call set up costs on a per call basis while Verizon's reciprocal compensation rate applies only a single blended rate on a per-minute basis.

42. There is no basis to find that ISP calls necessarily experience a higher call completion rate compared with calls to other service-oriented businesses where call completion is important.

43. There is no basis to find that trunk-to-trunk switching is used exclusively to terminate ISP calls, or that any related cost differentials impact traffic-sensitive termination costs subject to reciprocal compensation.

44. There is no basis to find that alleged differences in line concentration in the termination of ISP traffic compared with other local traffic results in lower traffic-sensitive termination costs subject to reciprocal compensation.

45. There is no basis to find that the switches utilized by the CLECs have less complete functionality than do ILEC switches, or that CLEC switches are unable to perform call origination functions.

46. To the extent that the ILEC may not fully recover reciprocal compensation payments for ISP traffic through residential charges, the appropriate remedy is not to relieve the ILEC of its obligations to pay third parties for services rendered, including call termination of ISP traffic.

47. Although ILECs have the obligation to pay reciprocal compensation of termination of ISP traffic, they also have the opportunity to increase their profitability by pursuing their own market opportunities to tap into the Internet market and other advanced technology options.

48. Even if the ISPs currently served by the CLECs were instead served by the ILECs, the ILECs would still incur costs to terminate such ISP calls on its own facilities.

49. The ILEC proposed bill-and-keep approach to recover any ISP call termination costs fails to produce symmetrical treatment of carriers.

50. Bill-and-Keep produces asymmetrical results since CLECs would render (at no charge to the ILEC) a disproportionately greater volume of ISP call termination for the benefit of ILEC customers compared with the volume of ISP call termination rendered by ILECs (at no charge) on behalf of CLEC customers.

51. The FCC has recognized that bill-and-keep may be an appropriate substitute for reciprocal compensation where originating and terminating traffic flows are roughly in balance.

52. Since ISP traffic flows are not in balance, the use of bill-and-keep would not be consistent with FCC criteria for the use of such an alternative.

53. The use of bill-and-keep would be inconsistent with the underlying principle of cost causation that the carrier serving the originating caller is responsible for compensating the carrier serving the called party for terminating the call for the benefit of the originating caller.

54. The proponents of the bill-and-keep alternative have failed to provide a practical implementation methodology by which ISP-related terminating minutes could be properly identified and excluded from the billing base subject to reciprocal compensation.

Conclusions of Law

1. This proceeding is not intended to revisit issues of whether ISP traffic is interstate or intrastate for state or federal jurisdictional purposes.

2. This proceeding has been bifurcated, with the first phase limited to consideration of whether the existing Commission policy calling for reciprocal compensation to apply to ISP-bound calls should continue or be replaced with an alternative approach.

3. Issues relating to the propriety of disparate rating and routing points for ISP-related calls (as well as for other categories of calls) is outside the scope of Phase 1 of this proceeding, but has been deferred to a subsequent phase of the proceeding.

4. To the extent that outstanding questions may remain concerning the specific rates to be applied for reciprocal compensation, those issues are deferred to a subsequent phase of the proceeding.

5. While this proceeding generally considered whether ILECs are financially disadvantaged by the payment of reciprocal compensation for ISP calls, the question of whether or how ILECs may seek adjustment of end user rates to offset ISP reciprocal compensation payments is excluded from Phase 1 of the proceeding. Parties were left with the opportunity to seek to raise this issue, if deemed necessary, in addressing the scope of a later phase of the proceeding.

6. In accordance with the authority delegated to the states under the Act, this Commission has discretion to determine whether or not ISP-bound traffic should be treated as local traffic subject to reciprocal compensation.

7. ISP-bound traffic meets the criteria prescribed under the Act to be treated as local traffic subject to reciprocal compensation on the same basis as for other local traffic.

8. Even if reciprocal compensation were found not to be required for ISP traffic by law under the Act, this Commission still may prescribe that reciprocal compensation be paid for such traffic on the same basis as for other local traffic if warranted by a review of relevant facts.

9. As a preferred outcome in negotiations among carriers, the reciprocal compensation provisions applicable to interconnection agreements should apply to the termination of calls to ISPs as they do to any other local calls in the manner prescribed under the Act.

10. There is nothing discriminatory in requiring that reciprocal compensation apply to the ISP termination of calls to by CLECs since the obligation for reciprocal compensation applies to all carriers, not just to the ILECs.

11. It is not confiscatory merely to require the ILEC to compensate the CLEC for terminating such calls in conformance with the reciprocal compensation provisions of applicable interconnection agreements.

12. The question of whether ILECs incur additional originating transport costs related to CLEC-served ISPs does not eliminate the right of CLECs to be compensated for their costs of terminating ISP traffic.

O R D E R

IT IS ORDERED that:

1. The Commission hereby affirms as a preferred outcome that reciprocal compensation provisions of interconnection agreements shall apply to the terminating traffic sent by competitive local exchange carriers (CLECs) to Internet Service Providers (ISPs) in the same manner that those provisions are applied to other local terminating traffic.

2. All carriers subject to interconnection agreements containing reciprocal compensation provisions are directed to make the appropriate reciprocal payment called for in such agreements for the termination of ISP traffic which would otherwise qualify as a local call based on the rating of the call measured by the distance between the rate centers of the telephone number of the calling party and

the telephone number used to access the ISP modem until such agreements are ended.

3. The ALJ is directed to promptly issue a ruling directing parties to file comments concerning the scope and disposition of any remaining issues that may require resolution in this rulemaking.

This order is effective today.

Dated _____, at San Francisco, California.